

# THE MONTHLY REPOSITORY.

AND LIBRARY OF

## Entertaining Knowledge.

---

VOL. I.

JANUARY, 1831.

No. 8.

---

### NEW-YORK DEAF AND DUMB ASYLUM.

WITH AN ENGRAVING.

THIS building, which has been constructed for an Asylum, is situated on a rising ground, about three and a half miles from the centre of the thickly settled part of the city, and a mile and a half from the suburbs, about midway between the East and North Rivers. From the site of the building, there is a beautiful and commanding prospect of the surrounding country. It is sufficiently remote from the city to enjoy the benefit of the country, and it is near enough to partake of the conveniences and facilities afforded by a dense population, and to avoid some of the inconveniences. The asylum is erected near the centre of a lot of five acres. The building itself is a plain structure of brick, covered with a coat of stucco resembling marble. Its architectural appearance is chaste and elegant, without superfluous ornament, having an elevation of three stories above the basement. The basement story contains a large dining room, two studies for the pupils when out of school, kitchens and store rooms, &c. On the first floor above the basement story is a large central school-room, and on either side, family rooms, another smaller school-room, and an apartment for the directors. On the next floor is a second large and central school-room, capable of accommodating more than one class by a temporary partition. On either side are family bed-rooms, and two others to be reserved for the sick of the different sexes. The third story is entirely appropriated for dormitories; the males in one end, and the females in the other, separated by two brick partitions,

and intervening rooms for teachers and others. The superficial area of the asylum is a parallelogram of 110 feet by 60. Its front has a southern aspect with a portico supported by six wooden columns. In the rear of the building are separate yards for the pupils, and a shed the whole length of the Asylum. In the easterly and westerly ends of this shed two rooms have been finished, which will answer for store rooms or work shops. The other out houses are two separate structures, 30 feet by 25 each, and two stories high, calculated for a stable and work shops, under one of which is a vegetable cellar for the Institution. In planting and constructing this Asylum and the necessary out-buildings, the Directors have spared no pains nor labor to render every thing convenient and commodious for the accommodation and benefit of the Deaf and Dumb.

---

### CABINET OF NATURE.

#### GEOLOGY.

THE production of a bed for *vegetation* is effected by the decomposition of rocks. This decomposition is effected by the expansion of water in the pores or fissures of rocks, by heat or congelation—by the solvent power of moisture—and by electricity, which is known to be a powerful agent of decomposition. As soon as the rock begins to be softened, the seeds of *lichens*, which are constantly floating in the air, make it their resting place. Their generations occupy it till a finely divided earth is formed, which becomes capable of supporting mosses and heath; acted upon by light and heat, these plants imbibe the dew, and convert constituent parts of the air into nourishment. Their death and decay afford food for a more perfect species of vegetable; and at length a mould is formed, in which even the trees of the forest can fix their roots, and which is capable of rewarding the labors of the cultivator. The decomposition of rocks tends to the *renovation* of soils, as well as their cultivation. Finely divided matter is carried by rivers from the higher dis-

tricts to the low countries, and alluvial lands are usually extremely fertile. By these operations, the quantity of habitable surface is constantly increased; precipitous cliffs are gradually made gentle slopes, lakes are filled up, and islands are formed at the mouths of great rivers: so that as the world grows stronger, its capacity for containing an increased number of inhabitants is gradually enlarging.

Of all the memorials of the past history of our globe, the most interesting are those myriads of remains of organized bodies which exist in the interior of its outer crusts. In these, we find traces of innumerable orders of beings, existing under different circumstances, succeeding one another at distant epochs, and varying through multiplied changes of form. "If we examine the secondary rocks, beginning with the most ancient, the first organic remains which present themselves, are those of aquatic plants and large reeds, but of species different from ours. To these succeed madrepores, encrinurites, and other aquatic zoophytes, living beings of the simplest forms, which remain attached to one spot, and partake, in some degree, of the nature of vegetables. Posterior to these, are ammonites, and other mollusci, still very simple in their forms, and entirely different from any animals now known. After these, some fishes appear; and plants, consisting of bamboos and ferns, increase, but still different from those which exist. In the next period, along with an increasing number of extinct species of shells and fishes, we meet with amphibious and viviparous quadrupeds, such as crocodiles and tortoises, and some reptiles, as serpents, which show, that dry land now existed. As we approach the newest of the solid rock formations, we find lamantins, phocæ, and other cetaceous and mammiferous sea animals, with some birds. And in the newest of these formations, we find the remains of herbiferous land animals of extinct species, the paleotherium, anaplotherium, &c. and of birds, with some fresh water shells. In the lowest beds of loose soil and in peat bogs, are found the remains of the elephant, rhinoceros, hippopotamus, elk, &c. or different species from those which now exist, but

belonging to the same genera. Lastly, the bones of the species which are apparently the same with those now existing alive, are never found except in the very latest alluvial depositions, or those which are either formed in the sides of the rivers, the bottoms of ancient lakes and marshes now dried up, in peat beds, in the fissures and caverns of certain rocks, or at small depths below the present surface, in places where they may have been overwhelmed by debris, or even buried by man. Human bones are never found except among those of animal species now living, and in situations which show that they have been, comparatively speaking, recently deposited."

More than thirty different species of animals have been found embedded in the secondary strata—no living examples of which are now to be found in any quarter of the globe. Among the most remarkable of these are the following.—1. The *Mammoth*, which bears a certain resemblance to the Elephant, but is much larger, and differs considerably in the size and form of the tusks, jaws and grinders. The fossil remains of this animal are more abundant in Siberia than in other countries; there being scarcely a spot, from the river Don to Kamschatka, in which they have not been found. Not only single bones and perfect skeletons of this animal are frequently to be met with; but, in a late instance, the whole animal was found preserved in ice. This animal was discovered on the banks of the frozen ocean, near the mouth of the river Jena, in 1799; and in 1805, Mr. Adams got it conveyed over a space of 7000 miles to Petersburg, where it is deposited in the museum. The flesh, skin, and hair, were completely preserved, and even the eyes were entire. It was provided with a long mane, and the body was covered with hair. This hair was of different qualities. There were stiff black bristles from twelve to fifteen inches long, and these belonged to the tail, mane and ears. Other bristles were from nine to ten inches long, and of a brown color; and besides these, there was a coarse wool, from four to five inches long, of a pale yellow color. This mammoth was a

male; it measured nine feet four inches in height, and was sixteen feet four inches long, without including the tusks. The tusks, measuring along the curve, are nine feet six inches; and the two together weigh 360 lbs avoirdupois. The head alone without the tusks, weighs 415 lbs avoirdupois. The remains of this animal have been found likewise in Iceland, Norway, Scotland, England, and in many places through the continent onwards to the Arctic ocean.

2. The *Megatherium*. A complete skeleton of this colossal species was found in diluvial soil near Buenos Ayres, and sent to Madrid. The specimen is fourteen feet long, and seven Spanish feet in height.

3. The great *Mastodon* of the Ohio. This species appears to have been as tall as the elephant, but with longer and thicker limbs. It had tusks like the elephant, and appears to have lived on roots. Its remains abound in America, particularly in the great valley of the Mississippi.

3. The *Tapir*, which also abounds in America. The one named *Gigantic Tapir*, is about eighteen feet long, and twelve feet high.

5. The *Irish Elk*, or Elk of the Isle of Man. This gigantic species, now apparently extinct, occurs in a fossil state in Ireland, Isle of Man, England, Germany and France. The most perfect specimen of this species, which was found in the Isle of Man, is six feet high, nine feet long, and in height to the tip of the right horn, nine feet  $7\frac{1}{2}$  inches. An engraving of this skeleton may be seen in vol. sixth of *Supp. to Encyc. Brit.*

The researches of Geology confirm the fact of a universal deluge, and thus afford a *sensible* proof of the credibility of the Sacred Historian, and, consequently, of the truth of the doctrines of Divine Revelation. But, besides the testimony which this science bears to the authenticity of Scripture History, it exhibits some of the grandest objects in the history of the physical operations of Divine Providence. It presents to our view in a most impressive form, the majestic agency of God, in convulsing and disarranging the structure of our globe, which at first sprung from his hand in perfect

order and beauty. When we contemplate the objects which this science embraces, we seem to be standing on the ruins of a former world. We behold "hills" which "have melted like wax at the presence of the Lord," and "mountains" which "have been carried into the midst of the sea." We behold rocks of enormous size, which have been rent from their foundations, and rolled from one continent to another—the most solid strata of the earth bent under the action of some tremendous power, and dispersed in fragments through the surrounding regions. We behold the summits of lofty mountains, over which the ocean had rolled its mighty billows—confounding lands and seas in one universal devastation—transporting plants and forests from one quarter of the world to another, and spreading universal destruction among the animated inhabitants of the waters and the earth. When we enter the wild and romantic scene of a mountainous country, or descend into the subterraneous regions of the globe, we are every where struck with the vestiges of operations carried on by the powers of Nature, upon a scale of prodigious magnitude, and with the exertion of forces, the stupendous nature of which astonishes and overpowers the mind. Contemplating such scenes of grandeur, we perceive the force and sublimity of those descriptions of Deity contained in the volume of inspiration: "The Lord reigneth, he is clothed with majesty; in his hand are the deep places of the earth, the strength of hills is his also. He removeth the mountains, and they know not; he overturneth them in his anger; he shaketh the earth out of her place, and the pillars thereof tremble. At his presence the earth shook and trembled; the foundations also of the hills moved, and were shaken because he was wroth." "Thou coveredst the earth with the deep, as with a garment; the waters stood above the mountains. At thy rebuke they fled; at the voice of thy thunder they hastened away." While retracing such terrific displays of Omnipotence, we are naturally led to inquire into the *moral* cause which induced the Benevolent Creator to inflict upon the world such overwhelming desolations. For reason,

as well as revelation, declares, that a *moral* cause must have existed. Man must have violated the commands of his Maker, and frustrated the end of his creation; and to this conclusion the Sacred historian bears ample testimony—"God saw that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually and Jehovah said, I will destroy man whom I have created, from the face of the earth, both man and beast, and the creeping thing, and the fowls of the air."

---

### EXAMPLES FROM HISTORY.

#### EMPLOYMENT OF TIME.

To be idle and unemployed, is a sign not only of a weak head, but of a bad heart. And as it is one vile abuse of time, which is given us for action, and action of the utmost moment, so is it one sure method to lead us to other and worse abuses. For he who is idle, and wholly unoccupied, will ere long, without question, be occupied in mischief. You must therefore take care that you employ your time; but then you must take as much care to employ it innocently; and by innocent employment is meant all the proper duties of your station, and all those inoffensive and short relaxations which are necessary either to the health of your bodies, or to the enlivening and invigorating your minds. You must be anxious to employ it in the best and noblest uses, in subserviency to your own eternal welfare; that is, with a constant eye to the glory of God and the good of mankind: for herein consists our duty, and for this end was all our time given us.

#### EXAMPLES.

"We all complain of the shortness of time, (says Seneca,) and yet have much more than we know what to do with. Our lives are either spent in doing nothing at all, or in doing nothing to the purpose, or in doing nothing that we ought to do. We are always complaining that our days are few, and acting as though there would be



no end of them." In short that noble philosopher has described our inconsistency with ourselves in this particular, by all those various turns of expression and thought which are peculiar to his writings.

It was a memorable practice of Vespasian, the Roman Emperor, throughout the course of his whole life, that he called himself to an account every night for the actions of the past day; and as often as he found he had slipped any one day without doing some good, he entered upon his diary this memorandum, "*Diem perdidit.*" "I have lost a day."

The excellent education which the younger Scipio had received, under his father Paulus Emilius, and from the instructions of Polybius, perfectly qualified him to fill his vacant hours with advantage, and afterwards to support the leisure of a retired life with pleasure and dignity. "Nobody," says a valuable historian, "knew better how to mingle leisure and action, nor to employ the intervals of public business with more elegance and taste." His predecessor, (and grandfather by adoption,) the illustrious Scipio Africanus, used to say, "that he was never less idle than when he was entirely at leisure; nor less alone than when he was wholly by himself; a very uncommon turn of mind in those who have been accustomed to the hurry of business, who too generally sink, at every interval of leisure, into a kind of melancholy nausea, and a listless disgust for every thing about them.

The example of Alfred the great, is highly memorable. "Every hour of his life had its peculiar business assigned it. He divided the day and night into three portions of eight hours each; and, though much afflicted with a very painful disorder, assigned only eight hours to sleep, meals, and exercise; devoting the remaining sixteen, one half to reading, writing, and prayer, and the other to public business." So sensible was this great man that time was not a trifle to be dissipated, but a rich talent entrusted to him, and for which he was accountable to the great dispenser of it.

We are told of queen Elizabeth, that, except when engaged by public or domestic affairs, and the exercises



necessary for the preservation of her health and spirits, she was always employed in either reading or writing; in translating from other authors or in compositions of her own; and that notwithstanding she spent much of her time in reading the best writings of her own and former ages, yet she by no means neglected that best of books the Bible: for proof of which take her own words: "I walk (says she) many times in the pleasant fields of the Holy Scriptures, where I pluck up the goodly herbs of sentences, by pruning; eat them by reading; digest them by musing, and laid them up at length in the high seat of memory, by gathering them together; that so having tasted their sweetness, I may the less perceive the bitterness of life."

Gassendi, the celebrated philosopher, was perhaps one of the hardest students that ever existed. In general he rose at three o'clock in the morning, and read or wrote till eleven, when he received the visits of his friends. He afterwards at twelve made a very slender dinner, at which he drank nothing but water, and sat down to his books again at three. There he remained till eight o'clock, when, after having eaten a very light supper, he retired to bed at ten o'clock. Gassendi was a great repeater of verses in the several languages with which he was conversant. He made it a rule every day to repeat six hundred. He could repeat six thousand Latin verses, besides all Lucretius, which he had by heart. He used to say, "that it is with the memory as with all other habits. Do you wish to strengthen it or prevent its being enfeebled, as it generally happens when a man is growing old, exercise it continually, and in very early life get as many fine verses by heart as you can: they amuse the mind, and keep it in a certain degree of elevation, that inspires dignity and grandeur of sentiment." The principles of moral conduct that he laid down for the direction of his life, were,—To know and fear God. Not to be afraid of death: and to submit quietly to it whenever it should happen. To avoid idle hopes, as well as idle fears."

When Socrates, in Plato's *Phædo*, has proved the immortality of the soul, he considers it as a necessary

consequence of the belief thereof, "That we should be employed in the culture of our minds; in such care of them as shall not only regard that term to which we give the name of life, but also the whole which follows it; in making ourselves as wise and good as may be; since on it our safety entirely depends; the soul carrying hence nothing with it but its good or bad actions, its virtues or vices; and these constitute its happiness or misery to all eternity." How might many a Christian be led to think that this is the language of a Pagan mind; a mind unenlightened with the bright splendors of gospel truth, and equally ignorant of a Saviour's merits, and of a Saviour's example!

Seneca, in his letters to Lucilius, assures him that there was not a day in which he did not either write something, or read and epitomize some good author: and Pliny, in like manner, giving an account of the various methods he used to fill up every vacancy of time, after several employments which he enumerates, observes, "Sometimes I hunt; but even then I carry with me a pocket-book, that, while my servants are busied in disposing the nets and other matters, I may be employed in something that may be useful to me in my studies: and that, if I miss my game, I may at least bring home some of my thoughts with me, and not have the mortification of having caught nothing."

"Among the Indians (says Apuleius) there is an excellent set of men, called Gymnosophists. These I greatly admire; though not as skilled in propagating the vine, or in the arts of grafting or agriculture. They apply not themselves to till the ground, to search after gold, to break the horse, to shear or feed sheep or goats. What is it then that engages them? One thing preferable to all these. Wisdom is the pursuit, as well of the old men, the teachers, as of the young, their disciples. Nor is there any thing among them that I do so much praise as their aversion to sloth and idleness. When the tables are overspread, before the meat is set on them, all the youths, assembling to their meal, are asked by their masters, In what useful task they have been employed from sun-rise to that time! One repre-

sents himself as having been an arbitrator, and succeeded by his prudent management in composing a difference; in making those friends who were at variance. A second had been paying obedience to his parents' commands. A third had made some discovery by his own application, or learned something by another's instruction. The rest gave an account of themselves in the same way. He who has done nothing to deserve a dinner, is turned out of doors without one, and obliged to work while the others enjoy the fruits of their application."

How beautifully simple, yet forcible, is the following account of the futility of those merely sensual pursuits, which have occupied the time and attention of those we have been accustomed to call the Great! In the book of the Maccabees, we read, that "Alexander, son of Philip the Macedonian, made many wars, took many strong holds, went through the ends of the earth, took spoils of many nations: the earth was quiet before him. After these things he fell sick, and perceived that he should die."

---

#### THE PHYSICIAN OF MOHAMMED.

ONE of the kings of Persia sent a very eminent physician to Mohammed; who remaining a long time in Arabia himself before the Prophet, he thus addressed him: "Those who had a right to command me, sent me here to practise physic, but since I came I have had no opportunity of showing my eminence in this profession, as no one seems to have any occasion for me." Mohammed replied, "*We never eat but when we are hungry; and we always leave off while we have an appetite for more.*" The physician answered "That is the way to render my services useless;" and so saying, he took his leave and returned to Persia.

Mohammed's favorite wife appears to have been a very sensible and virtuous woman. Among many excellent maxims she left her children, is the following.—

"My sons, never despise any person,  
Consider your superior as your father;  
Your equal as your brother;  
And your inferior as your son."



## NATURAL CURIOSITY.

## PRINTS OF HUMAN FEET IN ROCKS.

IN "Schoolcrafts' Travels in the central portions of the Mississippi valley," page 173, we find the following interesting description of two apparent prints or impressions of the human foot in a tabular mass of limestone at New Harmony, Indiana. The stone had been previously conveyed from the banks of the Mississippi, at St. Louis, and carefully preserved in an open area. "Being aware of the conclusions which must result to geology from a fact of this nature, and that all former notices of the organic impressions of our species in well-consolidated strata, have been deemed apocryphal, we were induced to examine the subject with particular attention. To obtain an exact drawing of these interesting prints, we moistened a sheet of paper to a degree that permitted its being pressed by the palm of the hand into the most minute indentations. While thus pressed in, we drew the outlines in pencil. From this drawing the accompanying plate, by Mr. Inman, is a faithful transcript, on a reduced scale. We present it to the public as being more minutely accurate than our own figure of the subject, published in the American Journal of Science.

"The impressions are, to all appearance, those of a man, standing in an erect posture, with the left foot a little advanced and the heels drawn in. The distance between the heels, by accurate measurement, is six and a quarter inches, and between the extremities of the toes, thirteen and a half. But, by a close inspection, it will be perceived, that these are not the impressions of feet accustomed to the European shoe; the toes being much spread, and the foot flattened, in the manner that is observed in persons unaccustomed to the close shoe. The probability, therefore, of their having been imparted by some individual of a race of men who were strangers to the art of tanning skins, and at a period much anterior to that to which any traditions of the present race of Indians reaches, derives additional weight from this peculiar shape of the feet.

"In other respects, the impressions are strikingly natural, exhibiting the muscular marks of the foot with great precision and faithfulness to nature. This circumstance weakens, very much, the supposition that they may, *possibly*, be specimens of antique sculpture, executed by any former race of men inhabiting this continent. Neither history nor tradition has preserved the slightest traces of such a people. For it must be recollected, that, as yet, we have no evidence that the people who erected our stupendous western tumuli possessed any knowledge of masonry, far less of sculpture,\* or that they had even invented a chisel, a knife, or an axe, other than those of porphyry, hornstone, or obsidian.

"The average length of the human foot in the male subject may, perhaps be assumed at ten inches. The length of each foot, in our subject, is ten and a quarter inches: the breadth, taken across the toes, at right angles to the former line, four inches; but the greatest spread of the toes is four and a half inches, which diminishes to two and a half at the heel. Directly before the prints, and approaching within a few inches of the left foot, is a well-impressed and deep mark, having some resemblance to a scroll, whose greatest length is two feet seven inches, and greatest breadth twelve and a half inches.

"The rock containing those interesting impressions is a compact limestone of a grayish-blue color.† It was originally quarried on the left bank of the Mississippi of St. Louis, and is a part of the extensive range of calcareous rocks upon which that town is built. Foundations of private dwellings at St. Louis, and the millitary works erected by the French and Spaniards,

---

\*The carvings of pipe bowls out of stratite, indurated clay, and other soft materials, executed by the Indians of the present day, do not, perhaps, merit the name of sculpture: but even of these, there is, we believe, no evidence that this simple art was practised before we had made them acquainted with the use of iron.

† Geologists teach us that the character and relative age of rocks may be determined with considerable certainty, from the fossil organic remains which they disclose in the most solid parts. They infer from the shells, plants, and other traces of organic structure,

from this material, sixty years ago, are still as solid and unbroken as when first laid.

now found in solid strata, that these rocks were once soft and pliable, so as to be capable of admitting these bodies. They point also to these substances, some of which are derived from the land and others from the ocean, as evidences of the dominion which the latter has formerly exercised over the surface of extensive portions of the earth, which are now dry and elevated; and as the most indubitable proofs of the physical revolutions which have, at remote periods, devastated its surface, involving these genera of shells, plants, &c. in the general catastrophe. The bones of several large quadrupeds, some of which are of extinct or non-descript species, and the osseous and enduring remains of birds, fishes and reptiles, which are often found, not only in alluvial deposit, but also in well consolidated strata, sufficiently indicate these changes, and point to several distinct submersions; some of which were manifestly produced by salt, and others by fresh water. Most of these disturbances and reproductions of strata, have, we believe, been attributed to causes operating in a very remote period of the world. We wish only to discover the osseous or petrified remains of man, in situations similar to those in which we find the brute tribes of the creation, to bring the revolutions, to which we have adverted, down to a much later period of history. If we suppose the present marks to be genuine, we here perceive some evidences of this nature. And they are found, as we should naturally expect, not upon those elevated mountains of granites and mica slates, which may be supposed to be sufficiently firm and well-based to have resisted the elemental shock, but in the central portions of a low and kindly valley, on the surface of one of those strata which are confessedly reproductions or resolutions from pre-existing species.

It is not our design to pursue this speculation into those details which it is calculated to invite. But we are naturally led to inquire;—are these marks natural or factitious? If genuine, at what period of the world were they impressed? Whether by the present race of Indians, or by any other nations who have inhabited this continent during its primeval age! Have the calcareous rocks of the Mississippi Valley been in a state sufficiently soft to receive such impressions, since their original formation? Were these rocks deposited during the Noachian deluge, or at any subsequent time? If deposited at that period, is there any reason to conclude that this continent was then inhabited? Finally were these tracks not impressed at a comparatively modern period, probably by that race of men who erected our larger mounds? May we not suppose a barrier to have existed across the lower part of the Mississippi, converting its immense valley into an interior sea, whose action was adequate to the production and deposition of calcareous strata? We do not consider such a supposition incompatible with the existence of transition rocks in this valley, the position of the latter being beneath the secondary. Are not the great northern lakes the remains of such an ocean? And did not the sudden demolition of this ancient barrier enable this powerful stream to carry its banks, as it has manifestly done, a hundred miles into the Gulf of Mexico?



---

**CIRCLE OF THE SCIENCES, WITH SUITABLE  
REFLECTIONS.**

---

**ASTRONOMICAL SKETCHES.—NO. VII.**

THE principal division of the year is into months, which are of two sorts, namely, astronomical and civil. The astronomical month is the time in which the moon runs through the zodiac, and is either periodical or synodical. The periodical month is the time spent by the moon in making one complete revolution from any point of the zodiac to the same again, which is 27 days 7 hours 43 min. The synodical month, called a lunation, is the time contained between the moon's parting with the sun at a conjunction, and returning to him again, which is 29 days, 12 hours, 44 min. The civil months are those framed for the use of civil life, and are different as to their names, number of days, and times of beginning, in several different countries.

A month is divided into four parts, called weeks, and a week into seven parts, called days; so that in a Julian year there are 13 months or 52 weeks, and one day over.

A day is either natural or artificial. The natural day contains 24 hours; the artificial, the time from sunrise to sunset. The natural day is either astronomical or civil. The astronomical day begins at noon, because the increase and decrease of days terminated by the horizon, are very unequal among themselves; which inequality is likewise augmented by the inconstancy of the horizontal refraction; and therefore the astronomer takes the meridian for the limit of diurnal revolutions, reckoning noon, that is, the moment when the sun's centre is on the meridian, for the beginning of the day. The British, French, Dutch, Germans,

---

We think such an hypothesis much more probable than that this remarkable prolongation of its valley, has been caused by the comparatively limited every-day deposits of recent times. We have been acquainted with the mouths of the Mississippi, like the Falls of Niagara, for more than a century; and yet its several channels, the distance from known points above, and all its essential grand features, like the cataract of Niagara, remain to all observation, essentially the same as when first discovered.

Spaniards, Portuguese, and Egyptians, begin the civil day at midnight; the Greeks, Jews, Bohemians, Silesians, with the modern Italians, and Chinese, begin it at sunset; and the ancient Babylonians, Persians, Syrians, with the modern Greeks, at sunrise.

A natural day is divided into 24 equal parts, called hours, as shown by well-regulated clocks and watches; but those hours are not equal, as measured by the returns of the sun to the meridian, because of the obliquity of the ecliptic, and the Earth's unequal motion in her orbit.

An hour is divided into 60 equal parts, called minutes; and these are subdivided into 60 equal parts, called seconds. But the Jews, Chaldeans, and Arabians divided the hour into 1080 equal parts, called scruples.

Besides the measure of time by years, &c., it was found convenient to introduce the use of Cycles; that is, a circulation of the time between the returns of the same event. The cycle of the sun is a space of 28 years; in which time the days of the month return again to the same days of the week; and the sun's place to the same degrees of the ecliptic on the same days, so as not to differ  $1^{\circ}$  in 100 years; and the leap-years again in respect to the days of the week on which the days of the month fall.

PHILIP GARRETT.

---

### NATURAL HISTORY.

#### ANTS.\*

The history of this insect presents examples of an industry which has become proverbial, and traits of affection and feeling which would do honor to our own species. Love and courage, patience and perseverance almost all the higher virtues of human nature, when arrived at the highest pitch of earthly perfection, seem to be the ordinary springs of action in the ant. Of ants, as of other social insects, the largest portion of the community consists of neuters; beings possessing the most exquisite sentiments of maternity unalloyed by passion;

\* See notice of recent publications, page 368.

so that from their birth to their death they live, think, and act only for the offspring of another. The instincts of this insect are, indisputably, more extraordinary than those of any other in the whole range of animated nature. The real habits and proceedings of these insects are so extraordinary, that they would stagger our belief, if not confirmed by such observers as Huber and Latreille. Their nests contain three kinds of individuals—males; females, which have wings; and neuters, which are destitute of these appendages.

“In the warm days which occur from the end of July to the beginning of September, and sometimes later, the habitations of the various species of ants may be seen swarming with winged insects; these are the males and females, preparing to quit for ever the scene of their nativity and education. Every thing is in motion; and the silver wings, contrasted with the jet bodies which compose the animated mass, add a degree of splendor to the interesting scene. The bustle increases, till at length the males rise, as it were, by general impulse into the air, and the females accompany them: the whole swarm alternately rises and falls with a slow movement, to the height of about ten feet; the males flying obliquely with a rapid zigzag motion, and the females, though following the general movement of the column, appearing suspended in the air, like balloons; and having their heads turned toward the wind.

Sometimes the swarm of a whole district unite their infinite myriads, and seen at a distance, says Mr. Gliditsch,\* produce an effect very much resembling an aurora borealis, when from the border of the cloud appear several columns of flame and vapor, attended

---

\* A species of ant, called by Linnæus the *formica sacchivora*, appeared in such torrents in the island of Granada, and destroyed the sugar-canes so completely by undermining their roots, that a reward of £20,000 was offered to any one who should discover an effectual mode of destroying them. They descended from the hills in a flood, and filled not only the plantation, but the roads for miles. Domestic quadrupeds perished: and rats, mice, and reptiles, were devoured by them, and even birds were so harassed when they alighted, as quickly to die. Nothing opposed their march: they blindly rushed into the streams and were drowned in such countless myriads, that

with a variety of luminous rays and lines, resembling forked lightning confined in its brilliancy. The noise emitted by the countless myriads of these creatures is not so loud as the hum of a single wasp, and the slightest breath scatters them abroad.

Attachment to the female is not the only instance of affection evinced by these insects; they, as well as bees, appear to recognize each other even after a long absence. Huber, having taken an ant-hill from the woods, placed it in his glass hive; finding that he had a superabundance of ants, he allowed some of them to escape, and these formed a nest in his garden. Those which were in the hive he carried into his study, and observed their habits for four months, after which period he placed the hive in the garden within fifteen paces of the natural nest. Immediately, the ants established in it recognised their former companions, with whom they had held no communication for four months; they caressed them with their antennæ, and taking them up in their mandibles, led them to their own nest. Presently others arrived in crowds and carried off the fugitives in a similar manner; and venturing into the artificial ant-hill, in a few days caused such a desertion that it was wholly depopulated.

The above anecdote seems to prove that ants have a language of dumb signs, of which the organs are the antennæ. As yet, the proofs of this antennal language have been drawn from the affections of these creatures, but more striking ones are derived from their passions. For there are few animals in which the passions assume a more deep and threatening aspect; they unite them in myriads for the purposes of war and extermination.

It would perhaps be too much to say, that the warfare which takes place among ants calls forth bright traits of character, and occasions the exercise of virtues,

---

the aggregation of their tiny carcasses dammed up the waters, and formed a bridge for others to pass over. The large fires lighted in their paths were speedily extinguished by the rush of their masses, and had not Providence swept them away in the torrents of a terrible hurricane in 1780, every thing must have fallen before them — *Introduction to Etymology*, vol. i. p. 185.

which under no other combination of circumstances could be exhibited. Yet Latreille, after he had cut off the antennæ of an ant, saw another approach it as if compassionating the loss of a member as dear to the owner as the pupil of our eye to us, and after caressing the sufferer, pour into the wound a drop of a liquid from its own mouth.

The causes which give rise to their wars are no doubt, as important to them as those which urge human monarchs to devastate, and human heroes to struggle for victory. The ants will dispute furiously about a few square feet of dust: and such an object is of equal magnitude and importance to them, as a river, or a mountain, to an emperor. Sometimes a straw, the carcass of a worm, a single grain of wheat, will cause myriads to engage in deadly strife, and leave the miserable inches of surrounding earth thickly strewn with the pigmy dead. Sometimes a nobler aim will cause them to defend to the uttermost their homes and their young, from the marauding ambition of a neighboring hill. "Alas!" says Bacon, "the earth with men upon it will not seem much other than an ant-hill, where some ants carry corn, and some carry their young, and some go empty, and all to and fro around a little heap of dust."

"If we wish to behold," says P. Huber, "regular armies wage war in all its forms, we must visit the forests in which the fallow ants establish their dominion over every insect within their territory: we shall there see populous and rival cities and regular roads, diverging from the ant-hill, like so many radii from a centre, and frequented by an immense number of combatants; wars between hordes of the same species, for they are naturally enemies, and jealous of any encroachment upon the territory which surrounds their capital. It is in these forests I have witnessed the inhabitants of two large ant-hills engaged in a spirited combat; two empires could not have brought into the field a more numerous or more determined body of combatants.

"Both armies met half-way from their respective habitations, and the battle commenced; thousands of

ants took their stations upon the highest ground, and fought in pairs, keeping firm hold of their antagonists by their mandibles; while a considerable number were engaged in the attack, others were leading away prisoners; the latter made several ineffectual endeavors to escape, as if aware that upon reaching the camp a cruel death awaited them. The field of battle occupied a space of about three feet square: a penetrating odour exhaled on all sides; and numbers of dead ants were seen covered with venom. The ants composing groups and chains laid hold of each other's legs and pincers, and dragged their antagonists on the ground; these groups formed successively. The fight usually commenced between two ants, who, seizing each other by the mandibles, raised themselves upon their hind-legs, to allow of their bringing their abdomen forward, and spurring their venom upon their adversary: they were frequently so wedged together, that they fell on their sides, and fought a long time in that situation in the dust; shortly afterwards they raised themselves, when each began dragging its adversary; but when their force happened to be equal, the wrestlers remained immoveable, and fixed each other to the ground, until a third came to decide the contest. It more commonly happened that both ants received assistance at the same time, when the whole four, keeping firm hold of a foot or antenna, made ineffectual attempts to win the battle. In this way they sometimes formed groups of six, eight, or ten, firmly locked all together; the group was only broken, when several warriors from the same republic advanced at the same time, and compelled the enchained insects to let go their hold, and then the single combats were renewed: on the approach of night, each party retired gradually to their own city.

"On the following day, before dawn, the ants return to the field of battle—the groups again formed—the carnage recommenced with greater fury than on the preceding evening, and the scene of combat occupied a space of six feet by two: the event remained for a long time doubtful; about midday the contending armies had removed to the distance of a dozen feet from

one of their cities, whence, I conclude, that some ground had been gained: the ants fought so desperately, that they did not even perceive my presence, and though I remained close to the armies, not a single combatant climbed up my legs.

The ordinary operations of the two cities were not suspended, and in all the immediate vicinity of the ant-hills order and peace prevailed; on that side on which the battle raged alone were seen crowds of these insects running to and fro, some to join the combatants, and some to escort the prisoners. This war terminated without any disastrous results to either of the two republics: long-continued rains shortened its duration, and each band of warriors ceased to frequent the road which led to the enemy's camp."

The astonishing part of this singular detail is, the instinct which enables each ant to know its own party. Of the same species, alike in form, size, faculties, and arms, it yet rarely happens that two of the same side attack each other; and when this takes place, says Huber, "those which are the objects of this temporary error caress their companions with their antennæ, and readily appease their anger." We can comprehend the existence of an instinct which shall, at all times, cause an animal to build its habitation after a distinct fashion, but a spontaneous combination of faculties seems to take place in the conduct of these wars. The insects march, countermarch, take prisoners, distinguish each other, retreat; in short, do all that man would do under similar circumstances. Nothing like the fatality of instinct is perceptible. These wars were accidental, might never have happened, and perhaps only happen in one community out of ten. Neither are they conducted alike in all cases, but are obviously modified according to the various circumstances of time and place. These very fallow ants, when they attack the sanguine ants, for example, adopt a system of ambuscade and stratagem; and the sanguine ants, if too hardly pressed, send off a courier to their ant-hill for farther assistance, and immediately, says Huber, a considera-



ble detachment leaves the sanguine city, advances in a body, and surrounds the enemy.

The strength and perseverance of ants are perfectly wonderful. Kirby states, that he once saw two or three horse-ants hauling along a young snake not dead, which was of the thickness of a goose-quill. St. Pierre relates, that he saw a number of ants carrying off a Patagonian centipede: they had seized it by all its legs, and bore it along as workmen do a large piece of timber. Nothing can divert them from any purpose which they have undertaken to execute. In warm climates they may be frequently seen marching in columns which exceed all power of enumeration; always pursuing a straight course, from which nothing can cause them to deviate: if they come to a house or other building, they storm or undermine it; if a river cross their path, they will endeavor to swim over it, though millions perish in the attempt.

It is related of the celebrated conqueror Timour, that being once forced to take shelter from his enemies in a ruined building, he sat alone many hours: desirous of diverting his mind from his hopeless condition, he fixed his observation upon an ant which was carrying a grain of corn (probably a pupa) larger than itself, up a high wall. Numbering the efforts that it made to accomplish this object, he found that the grain fell sixty-nine times to the ground; but the seventieth time it reached the top of the wall. "This sight," said Timour, "gave me courage at the moment, and I have never forgotten the lesson it conveyed."

---

TERMITES, OR WHITE ANTS

ALMOST all that we know concerning the habits and instincts of these curious animals is derived from an account published by Smeathman, in the "*Philosophical Transactions*" for 1781. The proceedings of this insect-tribe, as detailed in that paper, are so singular, that they cannot fail to prove interesting to the reader.

The termites are represented by Linnæus as the greatest plagues of both Indies, and indeed, between

the Tropics, they are justly so considered, from the vast damages and losses which they cause: they perforate and eat into wooden buildings, utensils, and furniture, with all kinds of household stuff, and merchandise; these they totally destroy, if their progress be not timely stopped. A person residing in the equinoctial regions, although not incited by curiosity, must be very fortunate if the safety of his property do not compel him to observe their habits.

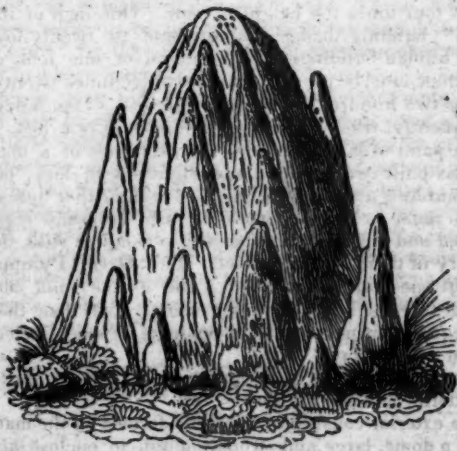
"When they find their way," says Kirby, "into houses or warehouses, nothing less hard than metal or glass escapes their ravages. Their favorite food, however, is wood, and so infinite is the multitude of assnail-ants, and such the excellence of their tools, that all the timber work of a spacious apartment is often destroyed by them in a night. Outwardly, every thing appears as if untouched; for these wary depredators, and this is what constitutes the greatest singularity of their history, carry on all their operations by sap or mine, destroying first the inside of solid substances, and scarcely ever attacking their outside until first they have concealed it and their operations with a coat of clay."

An engineer having returned from surveying the country, left his trunk on a table; the next morning he found not only all his clothes destroyed by white ants or cutters, but his papers also, and the latter in such a manner, that there was not a bit left of an inch square. The black lead of his pencils was consumed, the clothes were not entirely cut to pieces and carried away, but appeared as if moth-eaten, there being scarcely a piece as large as a shilling that was free from small holes; and it was farther remarkable, that some silver coin, which was in the trunk, had a number of black specks on it, caused by something so corrosive, that they could not be rubbed off, even with sand. "One night," says Kemper, "in a few hours, they pierced one foot of the table, and having in that manner ascended, carried their arch across it, and then down, through the middle of the other foot, into the floor, as good luck would have it, without doing any damage to the papers left there."\*

\* Hist. Japan, vol. ii. p. 127.

The destructiveness of these insects is, perhaps, one of the most efficient means of checking the pernicious luxuriance of vegetation within the tropics ; no large animals could effect in months what the white ant can execute in weeks ; the largest trees which, falling, would rot, and render the air pestilential, are so thoroughly removed, that not a grain of their substance is to be recognised. Not only is the air freed from this corrupting matter, but the plants destroyed by the shade of these bulky giants of the vegetable world are thus permitted to shoot.

The nests of these insects are usually termed hills by natives, as well as strangers, from their outward appearance, which, being more or less conical, generally resemble the form of a sugar-loaf ; they rise about ten or twelve feet in perpendicular height above the ordinary surface of the ground.



They continue quite bare till they reach the height of six or eight feet ; but in time the dead barren clay of which they are composed becomes fertilized by the

genial influence of the elements in these prolific climates; and in the second or third year, the hillock, if not overshadowed by trees, becomes like the rest of the earth, almost covered with grass and other plants; and in the dry season, when the herbage is burnt up by the rays of the sun, it appears not unlike a very large haystack. "But of all extraordinary things I observed," says Adanson, "nothing struck me more than certain eminences, which, by their height and regularity, made me take them at a distance for an assemblage of negro huts, or a considerable village, and yet they are only the nests of certain insects."\*

Smeathman has drawn a comparison between these labors of the termites and the works of man, taking the termites' laborer at one-fourth of an inch long, and man at six feet high. When a termites has built one inch, or four times its height it is equivalent to twenty-four feet, or four times the height of man. One inch of the termites' building being proportionate to twenty-four feet of human building, twelve inches, or one foot, of the former must be proportionate to twelve times twenty-four, or two hundred and eighty-eight feet, of the latter; consequently, when the white ant has built one foot, it has, in point of labor, equalled the exertions of a man who has built two hundred and eighty-eight feet; but as the ant hills are ten feet high, it is evident that human beings must produce a work of two thousand eight hundred and eighty feet in height, to compete with the industry of their brother insect. The Great Pyramid is about one-fifth of this height; and as the solid contents of the ant hill are in the same proportion, they must equally surpass the solid contents of that ancient wonder of the world.

Every one of these hills consist of two distinct parts, the exterior and the interior.

The exterior consists of one shell formed in the manner of a dome, large and strong enough to enclose and shelter the interior from the vicissitudes of the weather, and the inhabitants from the attacks of natural or ac-

\* Voyage to Senegal.

cidental enemies. It is, therefore, in every instance much stronger than the interior of the building, which, being the habitable part, is divided, with a wonderful degree of regularity and contrivance, into an amazing number of apartments for the residence of the king and queen, and the nursing of their numerous progeny; or appropriated as magazines, to hold provisions.

These hills make their first appearance above ground by a little turret or two in the shape of sugar-loaves, rising a foot or more in height. Soon after, at some little distance, while the first turrets are increasing in height and size, the insects raise others, and so go on, increasing their number, and widening their bases, till the space occupied by their under-ground works becomes covered with a series of these elevations; the centre turret is always the highest; the intervals between the turrets are then filled up, and the whole collected, as it were, under one dome. These interior turrets seem to be intended chiefly as scaffolding for the dome: for they are, in a great part, removed when that has been erected.

When these hills have reached somewhat more than half their height, they furnish a convenient stand where the wild bulls of the district may be seen to station themselves, while acting as sentinels and watching the rest of the herd reposing and ruminating below; they are sufficiently strong for this purpose. The outward shell, or dome, is not only of use to protect the interior buildings from external violence and heavy rains, but to collect and preserve a regular supply of heat and moisture, which seems indispensable for hatching the eggs and rearing the young ones.

---

#### YOUNG LADIES' GARLAND.

TO YOUNG LADIES.

If a young lady cannot bear reproof without sullenness, and disappointment without repining, what are we to expect of her when placed at the head of a family; to guide and direct its concerns? Truly the education

of females, at the present day, seems diametrically opposed to all that advances the happiness of domestic life. To attract admiration, and shine abroad, appears to be the principal object; as though they were destined for no higher purpose, like the ephemeral fly, they flutter awhile and are seen no more. What a lamentable circumstance, that the admirable picture drawn by Solomon should not have been more frequently imitated! All the refinements which wealth and luxury have introduced since the foundation of society, will never have power to do away the influence of those domestic virtues which the inspired penman has so beautifully delineated in the last chapter of Proverbs. One reason why the domestic virtues are so much neglected is the love of show and external parade.—When once a love of fashionable pleasure steals upon the affections it is in vain to look for the growth of those virtues which require a keeping at home. Fashion dethrones judgment, and lays her empire in the dust. When once the affections begin to entwine around the idol, the soul is fascinated with a kind of enchantment, which it seems impossible to resist, until it becomes a prey to the most violent passions; which, like a garden grown up with weeds, presents a most gloomy prospect for a future day.

S. L.

## INFLUENCE OF THE FEMALE CHARACTER.

Compare the condition and pursuits of the mass of men with those of women, and tell me on which side lies the inferiority. While the greater part of our sex are engaged in turning up the clods of the earth, fashioning the materials which are to supply the physical wants of our race, exchanging the products of industry of different countries, toiling amidst the perils of war or the tumults of politics,—to you is committed the nobler task of moulding the infant mind; it is for you to give their character to succeeding ages; it is yours to control the stormy passions of man, to inspire him with those sentiments which subdue his ferocity, and make his heart gentle and soft; it is yours to open to him the

truest and purest sources of happiness, and prompt him to the love of virtue and religion. *A wife, a mother!* How sacred and venerable these names! What nobler objects can the most aspiring ambition propose to itself than to fulfil the duty which these relations imply! Instead of murmuring that your field of influence is so narrow, should you not rather tremble at the magnitude and sacredness of your responsibility? When you demand of man a higher education than has hitherto been given you, and claim to drink from the same wells of knowledge as himself, should it not be that you may be thus enabled, not to rush into that sphere which nature has marked for him, but to move more worthily and gracefully within your own!—*Thatcher.*

---

#### YOUNG GENTLEMEN'S DEPARTMENT.

##### THE VALUE OF CHARACTER.

It is ever to be kept in mind, that a good name, is in all cases the fruit of *personal exertion*. It is not inherited from parents, it is not created by external advantages, it is no necessary appendage of birth, or wealth, or talents, or station; but the result of one's own endeavors—the fruit and reward of good principles, manifested in a course of virtuous and honorable action. This is the more important to be remarked, because it shows the attainment of a good name, whatever be your external circumstances, is entirely within your power. No young man, however humble his birth, or obscure his condition is excluded from the invaluable boon. He has only to fix his eye upon the prize, and press towards it in a course of virtuous and useful conduct, and it is his. And it is interesting to notice how many of our worthiest and best citizens have risen to honor and usefulness by dint of their own persevering exertions. They are to be found in great numbers in each of the learned professions, and in every department of business; and they stand forth bright and animating example of what can be accomplished by resolution and effort. Indeed, my friends, in the formation



of character, personal exertion is the first, the second, and the third virtue. Nothing great or excellent can be acquired without it. A good name will not come without being sought. All the virtues of which it is composed are the result of untiring application and industry. Nothing can be more fatal to the attainment of a good character than a treacherous confidence in external advantages. These, if not seconded by your own endeavors, will "drop you mid way, or perhaps you will not have started when the diligent traveller will have won the race."

Thousands of young men have been ruined by relying for a good name on their honorable parentage, or inherited wealth or the patronage of friends.—Flattered by these distinctions they have felt as if they might live without plan and without effort, merely for their own gratification and indulgence. No mistake is more fatal. It always issues in producing an inefficient and useless character. On this account it is, that character and wealth rarely continue in the same family more than two or three generations.—The younger branches placing a deceptive confidence in an hereditary character, neglect the means of forming one of their own, and often exist in society only a reproach to the worthy ancestry whose name they bear.

---

#### NOTICE OF RECENT PUBLICATIONS.

*Natural History of Insects.* 12 mo. pp. being No. X. of *Harpers' Family Library.*

As often as, in the course of our reading, we chance to light upon volumes connected with the lower animal world, our astonishment is renewed, that the wonderful subjects of which they treat, receive so little attention from the mass of mankind. There have been, in all periods, a few persons, the chosen priests of nature, who have worshipped her with a holy enthusiasm, who have explored her mysteries through all her favorite haunts, and claimed, for her productions, the admiration to which they are so abundantly entitled. But from the days of Pliny, to the present hour, naturalists have made but a partial impression upon the minds of men, in seeking to attract them for a while from the busy paths of life, to the wilderness and the mountain, the forest and the river,—there to see not only innumerable proofs of the active superintendence and power of an Almighty Being, but also models of ingenuity, which, if pro-

perly attended to, might be turned to practical advantage in almost every branch of science and art.

Few of our readers, who have not made themselves conversant with the history of insects, will, perhaps, believe, that among them are to be found miners, masons, carpenters, and upholsterers, who were perfect in their different trades six thousand years ago! The common spider has made every body familiar with his proficiency in the art of weaving: a similar insect, who has taken up his abode in the water, might have suggested the idea of the diving bell many centuries before it was discovered: and if we had our senses about us, when wandering in the fields of a fine evening in summer, the honor of inventing the air balloon would not have belonged to the French; we might have derived the principle of it from the little spider, who lifts himself into the air upon his tiny web of gossamer, an elevation which he could not otherwise have any chance of attaining. The bees have, perhaps, been more frequently observed and watched in our gardens, than any other creature of the insect race. Yet how few have followed them into the hive, and there learned how much may be done in a given time by division of labor; how by ingenuity of contrivance, many mansions and store-houses may be erected with the greatest possible economy of space, and how, by mutual assistance and general subordination, thousands may live together in affluence and peace. Before Babylon was thought of, the social tribes of ants had constructed towers, and cities, and domes; had raised fortresses, and built covered ways, with all the art of an experienced engineer. The vulgar idea is that these insects feed upon corn. They do no such thing. They take it to their habitations, and break it up amongst the other materials of their edifices, but their food is of a much more select description. Some of the ant tribes feed chiefly upon liquor, which is yielded to them by the aphid, whole flocks of which insect, if we may use the expression, they appropriate to themselves, tend and support, as we do our flocks of sheep and our herds of cattle. But what, perhaps, is not the least surprising passage in the history of ants is this, that there are races of them which have their negro slaves: regular whites, who, reposing in indolence themselves, compel the less fortunate nation of blacks to do for them all the drudgery which they require. The wasp, who is pursued with unrelenting hostility by every body that see him,—the terror of all nurses,—is, nevertheless, a most industrious and most excellent manufacturer of paper.

These are a few of the curiosities of history, belonging to insects, which would repay, in the way of amusement, the attention of the most careless reader. But the transformations which insects undergo, furnish materials for reflection of a still more important kind. A deformed, leaf-devouring, loathsome looking thing crawls along our path in the spring, and if we do not extinguish the little spark of life that warms him, he sports about our garden before the summer is over, in the form of a beautiful butterfly, decorated with a pair of wings so tastefully painted, that no artist can rival the splendor of their coloring. There is in the South of Europe an insect called the ant-lion, which, though apparently the most helpless of

all creatures, has a most formidable appearance. It contrives, by laying pit-falls, to live the life of a murderer for two years, during which period it resembles a wood-louse. This, however, is but its state of probation, as a larva. When the appointed time arrives, it repents of all its former habits, and retires into the earth, where it surrounds itself with a case, the inside of which it ornaments with a pearl-colored satin, of the most exquisite delicacy and beauty, the produce of its own silk and loom. In this elegant hermitage the penitent remains about two months, when not only his form, but his nature, is completely metamorphosed; he puts on four wings, and re-visits the world, a creature of purity, innocence, and gaiety, as a fly of a very brilliant description. Assuredly there are, in these changes, a pledge and a warning for man, of that great transformation that awaits him when his appointed moment arrives. If it be said that this death and burial and resurrection, under another form, of insects, be necessary to the propagation of their race, we must only therefore the more admire the goodness of Him who has ordained such a law, from which man cannot fail to derive the hope that he, also, after descending to the earth, may rise a newly-formed and purified creature, and destined for higher worlds than that from which, in *his* larva state, he now draws his support.

We have only room here to say that this work is of the most interesting character, and ought to be universally read.

## POETRY.

(For the Repository.)

### "TIME'S BUT THE PASSAGE TO A BETTER WORLD."

BY REV. JOSEPH RUSLING.

Man is not destined long to stay  
Where first he breathes, perhaps a day,  
Or hour alone!  
This life is but a passing place,  
To worlds beyond, we run the race  
And soon 'tis done.

Why should we then indulge a sigh  
If ills we meet, or pleasures fly,  
These cannot last!  
'Tis but a momentary strife,  
We breathe, and then we end our life,  
And all is past.

As flow the rivers to the sea,  
So time glides swift from you and me,  
'Tis gone how soon!  
Ourselves, and more, a hapless race,  
Shall lowly lie in death's embrace,  
Perhaps e'er noon.

This world is but the wreck of souls,  
Where the rough sea in tumult rolls  
    Its fearful waves,  
But heaven a house for us hath reared,  
Rich with celestial bloom prepared,  
    Beyond the grave!

Life's genial current, stay it must,  
And earth again reclaim our dust,  
    "Till time shall cease;"  
Then, ah! how sweet, the sound I hear,  
"Good tidings," such as angels bear  
    From realms of peace—

That when we shall resign our breath,  
And in submission bow to death,  
    We hope to find  
A pure and happier scene of bliss,  
Where we shall greet the *sons of peace*,  
    Of heav'nly mind.

Why then complain of transient things,  
Time lends to life his wide spread wings,  
    To waft us on;  
Thus by strong sweeping pinions borne,  
More fleet than dews of early morn,  
    We soon are gone.

Fly then ye moments, swifter far,  
Than the pale gleam when shoots a star,  
    There's naught to lose;  
Life, in ethereal grandeur waits,  
And when we pass the Empyrean gates,  
    THERE, is repose.

## TO THE EDITOR OF THE MONTHLY REPOSITORY.

BY REV. JOHN DOW.

The incipient numbers of your work, design'd  
To please, to comfort, and improve the mind,  
Have met my eye—and from a brief review,  
I'm led to say "Your good design pursue:"  
To give a relish to the mind of youth,  
For useful reading and for love of truth,  
Is nobly done—such labors justly claim  
A grateful tribute, meed of modest fame.  
*Knowledge*, deriv'd from *entertaining facts*,  
Inspires pleasure, and a zeal contracts,  
Gives an impetus to the expanding mind,  
And prompts to virtuous acts of ev'ry kind:  
Hence stores of various matter, cull'd with care,

Compose a cabinet of jewels, where  
 The mental pow'rs if virtuously inclin'd,  
 Behold their lustre, and a treasure find.  
 From the first pages of the work in view,  
 I think 'twill greatly please, and profit too,  
 Will illustrate the noble object sought,  
 And prove, that "reading is the food of thought,"  
 I recommend to all who books explore,  
 This cheap appendage to their fam'ly store,  
 May its contents reverb'rate from the tongue,  
 And prove a blessing to both old and young!

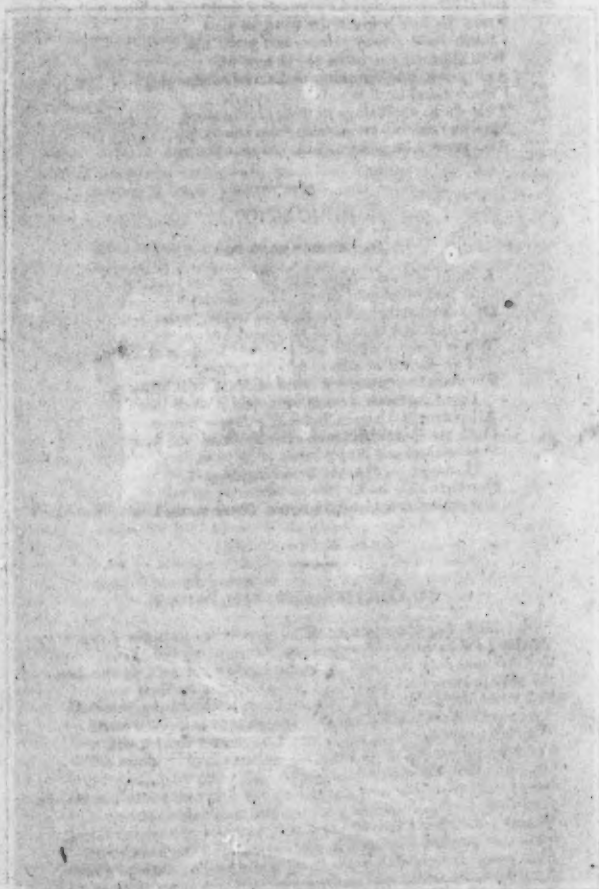
### EDUCATION.

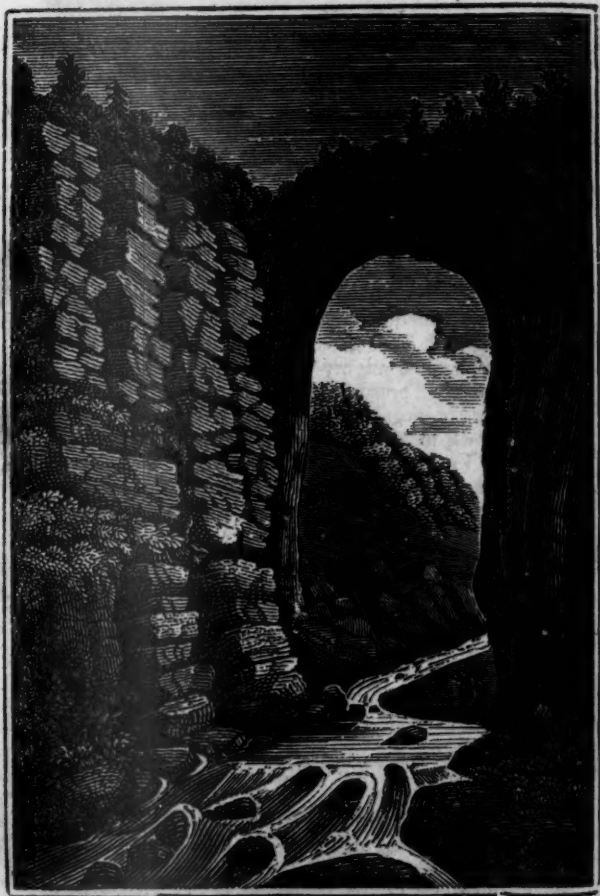
BY JOHN BOWLING.

A child is born—Now take the gem and make it  
 A bud of moral beauty. Let the dews  
 Of knowledge, and the light of virtue, wake it  
 In rich fragrance and in purest hues;  
 When passion's gust and sorrow's tempest shake it,  
 The shelter of affection ne'er refuse,  
 For soon the gathering hand of death will break it,  
 From its weak stem of life—and it shall lose  
 All power to charm; but if that lovely flower  
 Hath swelled one pleasure, or subdued one pain  
 O who shall say that it has lived in vain,  
 However fugitive its breathing hour?  
 For virtue leaves its sweets wherever tasted,  
 And scattered truth is never, never wasted.

### SUNBEAMS AND SHADOWS.

"Oh! life is like the summer rill, where weary daylight dies;  
 We long for morn to rise again, and blush along the skies.  
 For dull and dark that stream appears, whose waters, in the day,  
 All glad in conscious sunniness, went dancing on their way.  
 But when the glorious sun hath woke and looked upon the earth  
 And over hill and dale there float the sounds of human mirth;  
 We sigh to see day hath not brought its perfect light to all,  
 For with the sunshine on those waves, the silent shadows fall.  
 Oh! like that changeeful summer rill, our years go gliding by,  
 Now bright with joy, now dark with tears, before youth's eager eye.  
 And thus we vainly pant for all the rich and golden glow,  
 Which young hope, like an early sun, upon its course can throw.  
 Soon o'er our half-illumin'd hearts the stealing shadows come,  
 And every thought that woke in light receives its share of gloom,  
 And we weep while joys and sorrows both are fading from our view,  
 To find, wherever sunbeams fall, the shadow cometh too!"





ROCK BRIDGE IN VIRGINIA.